

Remarks

Claims 1-30 are pending in the application. Claims 8-27, 29 and 30 are withdrawn from consideration, accordingly please cancel the withdrawn claims, without prejudice.

Claims 1-7 and 28 are rejected. Claims 1, 2, 7 and 28 have been amended and new claims 31-38 have been added. Support for the amendments is found in Table 1 of the Examples; as well as at page 3, line 5-6; page 4, line 30-35; page 5, line 6 to page 6, line 15; page 8, line 10-16; page 9, line 28-30; and page 13, line 5-7. No new matter has been added. Arguments in this response are made with reference to the claims as amended hereby.

Rejections under 35 USC § 102 and 103

Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Shustack (US 5,128,391). Applicants respectfully traverse the rejection. Independent claim 1, and the claims dependent thereon, recite "2.0 to 20 wt.%, based upon total coating material, of the monofunctional, difunctional, trifunctional and polyfunctional (meth)acrylate compounds are linear or branched." This feature is neither taught nor suggested by the '391 reference, which teaches the use of cyclic or multicyclic (meth)acrylate compounds. The '391 reference describes the type of functional groups R2 for use in the monomer (meth)acrylate component stating:

R2 is a cyclic or multicyclic group selected from the group consisting of isobornyl, dicyclopentenyl, dicyclopentenyl oxyethyl, cyclohexyl, 3,3,5-trimethyl cyclohexyl, phenyl, benzyl, naphthyl, substituted derivatives thereof and mixtures thereof". Shustack (US 5,128,391), Col. 2, line 55-59.

As the Office is no doubt aware, a rejection under 35 U.S.C. §102 can only be maintained if single reference teaches each and every element of the claims. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

There is no teaching of a linear or branched (meth)acrylate monomer in

Serial No. 10/796,681

Art Unit: 1713

Shustack (US 5,128,391) that would anticipate Applicants' claimed linear or branched portion of component b. Moreover, the amount of the linear or branched compounds in component b has a direct effect on performance of the cured coating. Examples 5, 6, 8 and 9 utilize amounts of linear or branched component b as claimed resulting in more favorable results than Examples 3, 4 or 7 which used only a cyclic component b. As such, this rejection should be withdrawn.

Claim 4 is rejected under 356 U.S.C. 103(a) as being unpatentable over Shustack (US 5,128,391) in view of Shustack (US 5,128,387). The Examiner has stated:

Applicants argue that the prior art of Shustack et al. are silent on "at least one (meth)acrylate compound containing one or more acidic groups" and that Shustack et al. teach away from the claimed invention because Shustack et al. (col. 2, line 17-36) would cause undesirable effect, such as premature gelling. However, the examiner disagrees, because applicants' cited teaching is related to the background or the related art of the disclosed invention. Such background teaching does not constitute as negative teachings of the applicants' instantly claimed invention because Shustack et al (col. 7, line 52-68) clearly indicate that when acid functional group containing compound is used, Novacure 3800 (an initiator) should be used to avoid the incompatibility issues dealing with the neutralization of the acid group containing compound with an amine group containing initiation system.

The Examiner's attention is directed to the following passage from Shustack (US 5,128,391), Col. 10, lines 51-62, which is part of the Description of the Preferred Embodiments:

The organofunctional silane adhesion promoters of this invention are particularly advantageous inasmuch as they allow the incorporation of these amine cointiators in the composition. Unlike the acidic adhesion promoters disclosed in the Shustack application U.S. Ser. No. 134,975, filed Dec. 18, 1987, particular non-acidic silanes can be chosen such that, if it is desired to use an amine cointiator, there is a reduced tendency for the chosen non-acidic silanes to react with the amine, thus rendering the adhesion promoter ineffective and possibly compromising formation stability through premature gelling. (emphasis added).

As such, the '391 reference unambiguously teaches away from use of acidic adhesion

Serial No. 10/796,681

Art Unit: 1713

promoters.

Clarification is requested regarding the Examiner's statement that "Shustack et al (col. 7, line 52-68) clearly indicate that when acid functional group containing compound is used, Novacure 3800 (an initiator) should be used to avoid the incompatibility issues dealing with the neutralization of the acid group containing compound with an amine group containing initiation system". Both Shustack references say the exact same thing regarding Novacure 3800:

In place of the preferred epoxy diacrylate oligomer described above, other epoxy diacrylate oligomers may be used. For example, another oligomeric ingredient that could be used is available as Epocryl resin DRH-370 from Shell Chemical Co. This material is the diacrylate ester of liquid bisphenol A epoxy resin, and it has a viscosity of about 9000 poises at 77.degree. F. and a density of about 10.0 lbs. per gallon.

Other suitable epoxy acrylate oligomers include Novacure 3200, 3201 and 3500 (acrylate esters of an aromatic/aliphatic epoxy blend); Novacure 3600 and 3703 (amine modified diacrylate esters of bisphenol A type epoxy resins); Novacure 3700 and 3701 (diacrylate esters of bisphenol A type epoxy resins); **and Novacure 3800 (an acid functional diacrylate ester of a bisphenol A type epoxy resin)**, all from Interez, Inc., Louisville, Ky.
Shustack (US 5,128,391), col. 7, line 52-68.

Applicants respectfully submit that the above-cited passage does not clearly indicate that when acid functional group containing compound is used, Novacure 3800 (an initiator) should be used to avoid the incompatibility issues. First, Novacure 3800 is an epoxy acrylate oligomer, it is not an initiator. Second, claim 1 specifically recites epoxy (meth)acrylate oligomers as part of component "a" and separately recites "at least one (meth)acrylate compound different from a and b containing one or more acidic groups" that is part of component "c".

Shustack (US 5,128,391) is an improvement over the prior Shustack reference ('387) and substitutes the organofunctional silane adhesion promoter for acidic adhesion promoters. Seeking to combine the two Shustack references is improper where doing so destroys the '391's teachings. The '391 specifically teaches that acidic

Serial No. 10/796,681

Art Unit: 1713

adhesion promoters are not to be used. The '387 is being relied upon by the Examiner to teach adding the very chemicals that the '391 teaches are to be avoided. As such, the combination of these references would destroy the '391 and thus cannot be used to support a rejection under 35 USC 103.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shustack (US 5,128,391) in view of Razavi (US 5,629,365). The '365 patent is directed to a polymeric lattice containing colloidal particles of UV –absorbing polymer suspended in a substantially aqueous medium. This is very different from a UV cross-linkable product, which is solvent free. The compositions of Razavi are not UV curing compositions as claimed herein. The compositions of Razavi are UV absorbing (Col. 3, line 23 and Col. 15, line 10) to provide protection to UV-susceptible substrates. See, the '365 patent, Summary of the Invention. There is no teaching or suggestion in either reference that biocide should be included in a UV – cross linked composition as claimed by applicants. It would not have been obvious to one of ordinary skill in the art at the time the invention was made to modify the cross-linkable composition of the '391 patent. As such, the rejection of claim 6 under 35 USC 103 should be withdrawn.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shustack (US 5,128,391) in view of Nagasawa et al. (US 4,205,018). For the reasons recited above regarding patentability of claim 1 over the '391 patent, Applicants submit that there is no teaching or suggestion in the '391 and the '018 patents that would motivate one of skill in the art to modify the '391 in an attempt to achieve Applicants' claim 7. The rejection should be withdrawn.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shustack (US 5,128,391). Claim 28 has been amended to recite "2.0 to 20 wt.%, based upon total coating material, of the monofunctional, difunctional, trifunctional and polyfunctional (meth)acrylate compounds are linear or branched". For the reasons recited above regarding patentability of claim 1 over the '391 patent, Applicants submit that there is no teaching or suggestion in the '391 alone that would motivate one of skill

Serial No. 10/796,681

Art Unit: 1713

in the art to modify the reference in an attempt to achieve Applicants' claim 28. The rejection should be withdrawn.

New claims 31-38 are directed to particular aspects of the invention as disclosed in the specification as originally filed. It is submitted that the different features recited are not taught or suggested by the art of record.

Conclusion

Applicants request reconsideration in view of the remarks contained herein. Applicants submit that the claims are in condition for allowance and a notice to that effect is respectfully requested. Should the Examiner have any questions regarding this paper, please contact the undersigned

Respectfully submitted,

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